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Claims

Sub A 4) 1. A method of forming a blister pack comprising contacting a base sheet having a blister pocket ^{containing a product} therein with a cover sheet and applying laser energy to form a ^{hermetically sealing} join between said cover sheet and said blister pocket of said base sheet.

2. A method according to claim 1, wherein the base sheet has a plurality of blister pockets therein and laser energy is applied to form a join between the cover sheet and each blister pocket of said base sheet.

3. A method according to claim 2, wherein the base sheet and cover sheet are elongate and the base sheet has a plurality of blister pockets spaced therealong.

4. A method according to claim 3, wherein laser energy is applied to join each blister pocket of the elongate base sheet in a sequential fashion.

Sub A 5) 5. A method according to any of claims 1 to 4, wherein the laser energy derives from a laser source which is movable relative to the base and cover sheet to enable correct positioning of the join.

6. A method according to any of claims 1 to 4, wherein the laser energy derives from a fixed laser source and the base and cover sheet are movable to enable correct positioning of the join.

7. A method according to any of claims 1 to 4, wherein the laser energy is guidable by means of a guide mechanism to enable correct positioning of the join.

8. A method according to claim 7, wherein said guide mechanism includes one or more movable mirrors.

9. A method according to claim 7, wherein the guide mechanism includes one or more galvanometer scanners.

~~10. A method according to any of claims 1 to 9, wherein the join comprises a hermetic seal.~~

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Sub A⁶ 10 11. A method according to any of claims 1 to ~~10~~⁹, wherein the join has a zig-zag configuration.

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5 11 ~~12~~. A method according to any of claims 1 to ~~10~~⁹, wherein the join has a multi-dot configuration.

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12 ~~13~~. A method according to any of claims 1 to ~~10~~⁹, wherein the join is continuous.

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13 ~~14~~. A method according to any of claims 1 to ~~13~~¹², wherein the laser energy is supplied by a laser source having a maximum average power of from 10W to 200W, and a maximum peak power of from 1kW to 10kW.

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15 14 ~~15~~. A method according to any of claims 1 to ~~14~~¹³, wherein the laser energy is applicable in continuous fashion.

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15 ~~16~~. A method according to any of claims 1 to ~~14~~¹³, wherein the laser energy is applicable in pulsed fashion.

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16 ~~17~~. A method according to claim ~~16~~¹⁵, wherein the laser source has a pulse width of from 0.5 to 20 microseconds and a maximum pulse energy of from 10 to 100 Joules.

25 13 ~~18~~. A method according to any of claims 1 to ~~17~~¹⁶, wherein the join has a join width of from 5µm to 10mm, preferably from 10µm to 1mm, more preferably from 10 to 200µm, most preferably from 20 to 100µm.

Sub A⁷

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18 ~~19~~. A method according to any of claims 1 to ~~18~~¹⁷, wherein the base sheet and cover sheet comprise material selected from the group consisting of metal foil, an organic polymeric material and paper.

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19 ~~20~~. A method according to claim ~~19~~¹⁸, wherein the base sheet and cover sheet comprise different materials.

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Sub A⁸ 20 21. A method according to either of claims ~~19~~¹⁸ or ~~20~~¹⁹, wherein the base sheet and/or the cover sheet comprises a laminate.

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21 ~~22~~: A method according to any of claims 1 to ¹⁷~~21~~, additionally comprising applying laser energy to form one or more additional joins between each blister pocket.

5 ~~22~~ ²¹~~23~~: A method according to claim ~~22~~, wherein said one or more additional joins are concentric to the join.

Sub A⁹ 10 ~~23~~ ²²~~24~~: A method according to any of claims 1 to ~~23~~, additionally comprising foldably interlocking the base sheet with the cover sheet to provide a plurality of join sites therebetween and applying laser energy to form plural joins at each said site.

15 ~~24~~ ²³~~25~~: A method according to any of claims 1 to ~~24~~, additionally comprising applying laser energy to form score lines on the or each cover sheet and/or base sheet.

~~25~~ ²⁴~~26~~: A method according to claim ~~25~~, wherein said score lines facilitate access to each blister pocket.

20 ~~26~~ ²⁴~~27~~: A method according to claim ~~25~~, wherein the score lines facilitate separation of an individual blister pocket from the blister pack.

25 ~~27~~ ²⁴~~28~~: A method according to claim ~~25~~, wherein the score lines facilitate visual and/or electronic identification of said blister pack and/or blister pocket.

Sub A¹⁰ ~~28~~ ²⁷~~29~~: A method according to any of claims 1 to ~~28~~, additionally comprising applying laser energy to cut the blister pack.

30 ~~29~~ ²⁸~~30~~: A method according to claim ~~29~~, comprising cutting the blister pack to a specifiable shape.

Sub A¹¹ 35 ~~30~~ ²⁸ ²⁹~~31~~: A method according to either of claims ~~29~~ or ~~30~~, comprising cutting the blister pack to a specifiable size.

31 ~~32~~ ²⁸ ³⁰: A method according to any of claims ~~29~~ to ~~31~~, comprising cutting the blister pack to provide sprocket holes therein.

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- 32 ~~33~~. A method according to claim ~~32~~, comprising cutting semi-circular incisions in the blister pack depressible to form sprocket holes therein.

- Sub A 12/5 33 ~~34~~. A method according to any of claims 1 to ~~33~~, wherein the method is controllable by a computer.

~~35. A method according to any of claims 1 to 34 additionally comprising pre-filling the or each blister pocket with a product.~~

- any of 1 to 33
10 34 ~~35~~. A method according to claims 35, wherein said product is an electronic component.

- 34
15 35 ~~37~~. A method according to claim ~~36~~, wherein said electronic component is selected from the group consisting of semi-conductor, integrated circuit chip, fuse and battery.

- any of 1 to 33
36 ~~38~~. A method according to claims 35, wherein the product is a food.

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20 37 ~~39~~. A method according to claim ~~38~~, wherein said food is selected from the group consisting of meat, mycoprotein, milk, cheese, flour, pasta, rice, oil, sugar, confectionery, vegetable, herbal, snack, convenience and fruit foodstuffs.

- any of 1 to 33
25 38 ~~40~~. A method according to claims 35, wherein the product comprises a beverage.

- 38
30 39 ~~41~~. A method according to claim ~~40~~, wherein said beverage is selected from the group consisting of water, milk, coffee, cocoa, tea, fruit, carbonated and alcoholic drinks.

- any of 1 to 33
40 40 ~~42~~. A method according to claims 35, wherein the product comprises a toiletry.

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35 41 ~~43~~. A method according to claim ~~42~~, wherein said toiletry is selected from the group consisting of toothpaste, soap, mouthwash, shampoo, skin and face cream.

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any of 1 to 33

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42 ~~44~~. A method according to ¹⁹claim ~~35~~, wherein the product comprises a cleanser.

43 ~~45~~. A method according to claim ⁴²~~44~~, wherein said cleanser is
5 selected from the group consisting of soap, detergent, enzymic preparation and organic solvent.

any of 1 to 33
44 ~~46~~. A method according to ⁴²claim ~~35~~, wherein the product comprises a disinfectant.

10 45 ~~47~~. A method according to claim ⁴⁴~~46~~, wherein said disinfectant is selected from the group consisting of sterilant, antiseptic and bleach.

any of 1 to 33
15 46 ~~48~~. A method according to ⁴⁴claim ~~35~~, wherein the product comprises a light-sensitive material.

47 ~~49~~. A method according to claim ⁴⁶~~48~~, wherein said light-sensitive material comprises a photographic film.

any of 1 to 33
20 48 ~~50~~. A method according to ⁴⁶claim ~~35~~, wherein the product comprises a marking material.

49 ~~51~~. A method according to claim ⁴⁸~~50~~, wherein said marking material is selected from the group consisting of toner, ink, dye, pigment, acid and
25 alkali.

any of 1 to 33
50 50 ~~52~~. A method according to ⁴⁸claim ~~35~~, wherein the product comprises a covering material.

30 51 ~~53~~. A method according to claim ⁵⁰~~52~~, wherein said covering material is selected from the group consisting of paint, pigment, dye, corrosion inhibitor, electrical conductor, electrical insulator and static inhibitor.

any of 1 to 33
35 52 ~~54~~. A method according to ⁵⁰claim ~~35~~, wherein the product comprises a toy.

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53 ~~55~~. A method according to claim ⁵²~~54~~, wherein said toy is selected from the group consisting of model, figure, doll, animal, jig-saw and game.

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any of 1 to 33

54 ~~58~~. A method according to claim 33, wherein the product comprises haberdashery.

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5 ~~55~~ ~~57~~. A method according to claim ~~58~~, wherein said haberdashery is selected from the group consisting of button, bobbin, needle, pin, eye, hook and fastener.

any of 1 to 33

10 ~~56~~ ~~58~~. A method according to claim 33, wherein the product comprises a tool.

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~~57~~ ~~59~~. A method according to claim ~~58~~, wherein said tool comprises a domestic tool.

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15 ~~58~~ ~~60~~. A method according to claim ~~59~~, wherein said domestic tool is selected from the group consisting of can opener, bottle opener, ring-pull opener, scissors, knife, fork and spoon.

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20 ~~59~~ ~~61~~. A method according to claim ~~58~~, wherein said tool comprises a home maintenance tool.

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60 ~~62~~. A method according to claim ~~61~~, wherein said home maintenance tool is selected from the group consisting of nail, screw, pin, wire, screwdriver, knife, brush, spanner, ruler and marker.

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any of 1 to 33

61 ~~63~~. A method according to claim 33, wherein the product comprises stationery.

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30 ~~62~~ ~~64~~. A method according to claim ~~63~~, wherein said stationery is selected from the group consisting of pencil, pen, ruler, crayon, eraser, marker, stencil, protractor, compass and paper.

any of 1 to 33

63 ~~65~~. A method according to claim 33, wherein the product is an adhesive.

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64 ~~66~~. A method according to claim ~~65~~, wherein said adhesive bonds materials selected from the group consisting of paper, plastic, wood, rubber, glass and metal.

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any of 1 to 33

65 67. A method according to claims 35 wherein the product is an agrochemical.

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5 66 68. A method according to claim 67, wherein said agrochemical is selected from the group consisting of herbicide, insecticide, fungicide, rodenticide, nematocide, acaricide and plant growth regulator.

any of 1 to 33

10 67 69. A method according to claims 35 wherein the product comprises a plant seed.

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68 70. A method according to claim 69, wherein said seed is derived from plants selected from the group consisting of monocotyledonous and dicotyledonous plants.

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any of 1 to 33

69 71. A method according to claims 35 wherein the product comprises a contraceptive.

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20 70 72. A method according to claim 71, wherein said contraceptive is either a contraceptive device or a contraceptive drug.

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71 73. A method according to claim 72, wherein said contraceptive device is selected from the group consisting of condom, diaphragm, sponge and coil.

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72 74. A method according to claim 72, wherein said contraceptive drug is selected from the group consisting of spermicide, estrogen, ethinyl estradiol, progesterone, levonorgestrel and norgestrel.

any of 1 to 33

30 73 75. A method according to claims 35 wherein the product comprises a medical instrument.

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74 76. A method according to claim 75, wherein said medical instrument is selected from the group consisting of scalpel, thermometer and syringe.

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any of 1 to 33

75 77. A method according to claims 35 wherein the product comprises laboratory equipment.

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76 78. A method according to claim 77, wherein said equipment is selected from the group consisting of dispenser tip, microbial filter, filter paper, aseptic container, petri-plate, vial, test tube, tissue-culture vessel and pipette.

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any of 1 to 33

77 79. A method according to claims 35, wherein the product comprises a catemenial product.

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78 80. A method according to claim 79, wherein said catemenial product comprises a tampon.

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any of 1 to 33

79 81. A method according to claims 35, wherein the product comprises a medicament.

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15 80 82. A method according to claim 81, wherein said medicament is in dry powder, tablet, liquid, paste, cream or capsular form.

Sub 13

81 83. A method according to either of claims 81 or 82, wherein said medicament is selected from the group consisting of albuterol, salmeterol, ipratropium bromide, fluticasone propionate and beclomethasone dipropionate and salts or solvates thereof and any mixtures thereof.

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82 84. Blister pack formable by the method of any of claims 1 to 81.

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